#### WASTE MANAGEMENT AND RECYCLING



#### **RETURN TO ONLINE PROFILE**

#### EXAMPLES OF GOOD PRACTICE WASTE MANAGEMENT AND AWARENESS

The best performers have a green team to set targets, monitor progress and spread awareness and good practice across the lodge or resort. Pictured here, Green team at Evolve Back Coorg.



A range of lodges encourage guests to recycle through guest literature – pictured here a briefing for the colour coded bins in bedrooms at Svasara Jungle Lodge. <u>Read case study</u>.



Providing bins in grounds to avoid litter is good practice. The Golden Tusk pictured here provides separate bins in its grounds for biodegradable and nonbiodegradable waste.



Guests at Dhole's Den are encouraged to recycle and take waste home. 100% of waste is segregated and appropriate materials composted or sold for scrap.

WASTE SEGREGATION

Tigergarh Wildlife Resort has created a wall of used beer bottles in the dining hall to raise awareness of the need to recycle as part of its positive waste management practices. <u>Read case study</u>.



The Golden Tusk uses notices to encourage guests to avoid food waste.



Evolve Back Kabini uses colour coding to segregate kitchen waste into six different streams: paper, plastic, food waste, metal tins/cans, silver foil, metal waste. <u>Read case study</u>.



Spice Village, Thekkady segregates its dry recyclable waste into five different streams – paper, plastic, glass, tin and ceramics. <u>Read case study</u>.



Waste at Banjaar Tola – Taj Safaris is segregated into wet and dry waste with four bins in use in the kitchen (wet waste, paper, plastic and tin). Dry nonbiodegradable waste is stored separately and removed periodically by a local scrap merchant. An information board on hazardous waste is placed at the lodge entrance.



Svasara Jungle Lodge asks its guests to segregate waste into three streams with colour coded bins in guest rooms for food waste, recyclable waste and nonrecyclable waste.



Evolve Back Kabini has a four-tier housekeeping waste segregation system.



The Fern Gir Forest Resort segregates its kitchen waste into clearly labelled bins for recyclable and non-recyclable waste. <u>Read case study</u>.



Dry waste segregation at Treehouse Hideaway.



Spice Village, Thekkady has bins to segregate rubbish in its grounds.

#### **GOING PLASTIC FREE**



Bandhav Vilas uses colour coded rubbish bins in its grounds.



Reverse osmosis is used by many lodges to clean water and reduce or replace plastic bottles. Pictured here, drinking water station filled with RO treated water and refillable metal bottles provided to all guests at Pugdundee Safari Lodges. 100,000 plastic bottles have been saved over four seasons. <u>Read case study</u>.



Evolve Back Kabini provides reverse osmosis filtered water in every guest room and recycled glass bottles of water on departure.



An award-winning in-house bottling plant at Spice Village Thekkady is saving approx. 36,000 plastic bottles a year.



Tigergarh Wildlife Resort buys in bulk to cut down on plastic and packaging using refillable decanters for 100% organic and biodegradable soaps in their bathrooms. Cling film is no longer used. Reverse osmosis filtered water is provided in guest rooms to avoid the use of plastic bottles.



Jaagir Lodge is almost plastic free and uses metal sippers, stainless steel bottles for water, wooden toothbrushes and combs, glass storage jars for tea and coffee kits and reusable boxes for tiffin and breakfast for safaris and bottles for liquid.



Pugdundee Safaris lodges organise plastic free safaris using steel bottles and plant based food containers, part of their broader single use plastic free strategy.



Plastic free toothbrushes and cotton buds are used by a range of lodges to cut back on plastic, pictured here at Pugdundee Safaris Lodges ...



... glass containers instead of sachets for guest coffee, tea and sugar...



and plant based containers.



A range of lodges use refillable ceramic toiletry bottles instead of plastic. Jim's Jungle Retreat, pictured here makes its own soaps on site and wraps them in leaves, part of its policy to become single plastic use free.



Traditional Bauhinia leaf plates used by Kipling Camp for their annual Forest Creation workshops.



A taste of traditional food served in traditional, food wrap at Tiger Tops Tharu Lodge.



Composting is good practice for disposing of appropriate vegetable, fruit and garden waste – and adds fertility to the soil. Pictured here composting at Evolve Back Kabini. They also have a piggery and a biogas unit (see below).





Vegetable and fruit waste is composted with leaves at Forsyth Lodge for use in their organic kitchen garden. The area is fenced to keep out wild boar. Leaf litter is also used as a top layer for the garden to help retain moisture and to leach nutrients into the soil.



Composting at Fern Gir Forest Resort.



Covered compost at Flame of the Forest Safari Lodge to keep out pests.



Vermicomposting at Tiger's Den Resort uses worms to turn biodegradable waste into a rich manure.



Spice Village, Thekkady harnesses the power of vermicomposting using worms to transform an average of 100-150 kg food waste each day into rich compost for their organic garden and the land.



Jaagir Lodge in Dudwa has installed a Foodie Model F-25 composter. This microorganism based 24-hour machine has a daily waste processing capacity of 25 kg breaking down organic waste into compost with a volume reduction of 85-90%. The system processes all types of organic waste such as curry, roti, bread, eggshells, chicken, fish and mutton bones, fruit peels and garden waste etc for re-use as fertiliser in the grounds.



Sasan Gir has a weighing area for wet waste for composting and to monitor its performance and help reduce waste.



Sasan Gir uses a Bioneer composter which processes their kitchen and garden waste. The machine can process up to 100 kg of waste a day and takes 24 hours to process. The compost is used as soil enriching fertiliser in their grounds which include a large kitchen garden.



Aahana The Corbett Wilderness combines biogas and composting to dispose of all its biodegradable waste. The gas generated is used in the staff cafetaria while the residual waste is used to speed up composting. Compost is used for its extensive kitchen garden.



A biogas unit at Evolve Back Kabini is used alongside composting and piggery for disposing of food waste helping to power cooking.



Khem Villas uses manure from its on-site dairy and food waste to power the biogas unit at Khem Villas providing a source of energy for cooking.



Vermicomposting using worm power at Kipling Camp.



Natural food recyclers - a range of lodges recycle appropriate food waste to local farmers. Pigs are a more carbon efficient method of disposing of biodegrable waste than composting.



Charcoal briquettes are made from lantana, an invasive weed, a local enterprise training initiative by the Singinawa Foundation and Kanha Lodge Association.

#### **RECOVERING AND RE-USING**



Evolve Back Kabini offer daily paper bag making classes turning waste into an opportunity to engage guests and share their expertise.



Spice Village, Thekkady transforms newspapers and magazines into guest stationery, leaf letters and manuals at the resort's paper making centre which produces 200 handmade papers a day. Guests can participate in papermaking.



Tigergarh Wildlife Resort's NGO, CATS Foundation is training local women to make mats out of recycled sarees and bags out of old clothes. The resort uses old tyres as planters as part of its work to recycle, recover and re-use.



A range of lodges have used recycled wood and building materials for furniture and construction. Pictured here furniture made from recycled wood and railway sleepers at Kanha Earth Lodge.



The Teak House at Svasara Lodge used recycled teak and white Allahabad roof tiles from old dismantled buildings in its construction.

**CLEAN UP DRIVES** 



Flame of the Forest Safari Lodge has used recycled tiles as rustic lampshades.



Clean-up drive in the surrounding area at Evolve Back, Kabini, one of many lodges helping to reduce rubbish in the local environment.



Lodge staff at Singinawa Jungle Lodge take part in clean-up drives especially along the Tannaur and Banjar river flows to prevent plastic and litter entering waterways.



Students at Fateh Public School, a school in Ranthambhore funded by Khem Villas' Foundation, are educated about the impact of litter and the need to avoid it. Pictured here, students litter clearing in the park. Photo: Padmini Singh



Kipling Camp has spearheaded a Kanha waste management committee in the Mocha-Khatia area and has distributed green dustbins made of used metal oil tins around Khatia village for rubbish collection.



Waterwoods Lodge & Resorts coordinated a team of 90 volunteers in 2019 for a three day local clean up collecting three tons of trash from the banks of the Kabini. The 2018 clean-up collected 3.2 tons of river trash and old fishing nets with the help of 50 volunteers from surrounding resorts.



Nature walk and clean up in the forest with local children organised by Pashan Garh – Taj Safaris.

## **CASE STUDIES**

•	Spice Village Thekkady, Periyar
•	Evolve Back Kabini, Nagarhole  9    Creative guest recycling workshops and cutting down on waste
•	Pugdundee Safaris Lodges
•	Tigergarh Wildlife Resort, Bandhavgarh
•	Svasara Jungle Lodge, Tadoba14 Segregating waste and saying goodbye to plastic
•	The Fern Gir Forest Resort, Gir  15    Segregating waste and creative plastic bottle reuse

#### Spice Village, Thekkady, Periyar An Imaginative Approach to the 5 Rs and Harnessing Worm Power



Furniture made from recycled pine packing cases.

An award-winning on-site bottling plant using water treated by micro filters, reverse osmosis and biodynamisation and reusable glass bottles is saving 36,000 plastic water bottles each year. A Local Area Network for inter-office communication is in place to reduce printing and paper wastage.

Litter bins in the grounds are designed to segregate waste and keep grounds litter free. Waste sorting facilities segregate nonbiodegradable waste into paper, plastic, glass, tin and



Litter bins in the grounds.

ceramics. Newspapers and magazines are transformed into guest stationery, leaf letters and manuals at the resort's paper making centre which produces 200 handmade papers a day. Waste pineapple crowns are used as tenacity a enhancing agent which increases the binding quality.

Other waste streams are sold as scrap to an authorised scrap merchant. Plastics are recycled for use as non-food plastics. Glass, tin, china and glass are sold to bulk purchasers in the industry.

Spice Village takes an imaginative and proactive approach to the 5 Rs – Refuse, Reduce, Reuse, Recycle, Recover. With a pioneering approach to reusing old materials, pine packing cases sourced from the nearest port 25 years ago were artfully remade into furniture. Excess upholstery material is made into shopping bags. Two bags per household have been distributed to 550 local families and promoted in food and beverage outlets to cut down on local plastic waste.



*Reusable glass bottles filled on site at the resort's bottling plant.* 



Waste segregation at the resort.



*Turning paper waste into an opportunity for guests.* 



*Guest stationery and literature using paper made on site.* 



Biogas unit.

Vermi-composting with the Esinia species of earthworm purchased from a local NGO is also used to convert cooked food waste, meat trimmings and fresh vegetable cuttings into a rich fertiliser for the property's two-acre vegetable and herb gardens in a 45-day process. Two people are employed for the system's upkeep which processes an average of 100-150 kg of food waste each day. Waste is spread out in tanks, 78 in total

A biogas plant at the property converts biodegradable waste into methane used for cooking. The remaining slurry diluted with water (1:20 ratio) provides fertiliser for the vegetable garden.



Vermi-composting operation transforms 100-150kg of food waste per day into compost.

each holding 20 kg, and covered with a mixture of cow dung and dry leaves. Once the tanks are 75% full, the food waste is left to bio-compost for five days and 5-10 kg of earthworm culture is added to each tank topped off with a moist jute bag spread on the surface to multiply the worms. Compost harvesting starts from day twenty delivering an amazingly rich fertiliser thanks to worm power.



Thriving certified organic vegetable garden fertilised with rich compost from recycled kitchen waste.

#### **Evolve Back Kabini**, **Nagarhole** Creative Guest Recycling Workshops and Cutting Down on Waste



Bags made on site from recycled paper.

Daily paper bag making classes are just one of the initiatives Evolve Back is taking to cut down on waste turning it into an opportunity to engage guests and share its expertise. The bags used at the resort are part of their *No to Plastic* approach.

A reverse osmosis installation is provided in every room for safe drinking water and new and recycled glass bottles are used instead of plastic. Refillable ceramic shampoo, conditioner and moisturiser bottles cut down on plastic waste.



Reverse osmosis provides drinking water in every guest room.



Glass bottles are used in the restaurant.



*Guests are provided with recycled glass bottles on departure.* 



Partitioned bags used by housekeeping.

Waste is measured on a monthly basis. A rigorous system is used for recycling waste using colour coded four partition handbags in housekeeping.



Colour coded labelled bins.



Kitchen waste segregation at Evolve Back Kabini and Coorg.

Kitchen waste is segregated into paper (yellow), plastic (blue), food waste (green), metal tin/cans (red), silver (silver foil) and meat waste (white).

Food waste is disposed of through composting, a piggery and a biogas unit which helps to power cooking.



Biogas unit.

Good practice is spread to surrounding villages with clean up drives to remove plastic and other waste.



Village clean up



Composting.

#### **Pugdundee Safaris** Saying No to Plastic

#### Kings Lodge, Bandhavgarh Pench Tree Lodge, Pench Denwa Backwater Escape, Satpura



Water refill stations are complemented by reusable steel flasks.

#### Tree House Hideaway, Bandhavgarh Ken River Lodge, Panna Kanha Earth Lodge, Kanha

Pugdundee has adopted a 100% singleuse plastic-free policy across its six lodges and runs an anti-plastic campaign to encourage the local community and suppliers not to use plastic. 100,000 plastic bottles have been saved over four seasons years by replacing them with reusable steel bottles given to guests on arrival with water stations on hand for refilling with filtered water served in restaurants. Water is purified using reverse osmosis. This initiative has been extended into the community

with over 200 steel bottles donated to school children in 2017 around Bandhavgarh combined with education about the environment and plastic waste.



Refillable glass toiletry bottles.

Refillable glass-made dispensers for guest toiletries supply organic, non-polluting products. Bamboo toothbrushes and cotton buds have replaced plastic varieties. Bags are made from recycled newspaper. Picnic meals are plastic free using cutlery plant-based bamboo and food packaging. Tetra packs have been replaced with sippers containing fresh lemonade or iced tea.



Bamboo cotton buds and toothbrushes.



Plastic free picnicking.



Plant based food containers.





Glass containers for guest coffee, tea and sugar.





Tetra packs out; sippers with freshly made drinks in.



No to plastic bags.



The no to plastic initiative is part of Pugdundee's broader waste management programme. Their Farm to Table approach utilises their own fresh home grown produce and local food instead of relying on exotic or tinned produce – beneficial for health and the local economy. Tetrapaks have been completely done away with. Kitchen waste is segregated into dry and wet waste, with separate bins provided in guest rooms for the same. Non-biodegradable waste (plastic, paper, glass, tin etc) is segregated and collected weekly by a local scrap merchant (kabadiwala). Appropriate kitchen and garden waste is composted. Workshops are held for staff on the importance of the five Rs – refuse, reduce, reuse, recycle,

Segregation of dry waste at Treehouse Hideaway.

recover.

Lodge construction has utilised recycled timber alongside timber sourced from government approved forestry sources. Furniture is made from recycled wood and railway sleepers.



*Furniture made from waste wood and recycled railway sleepers at Kanha Earth Lodge.* 

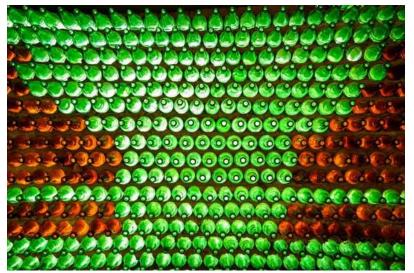


Leaf composting at Kanha Earth Lodge.



Anti-plastic campaign at King's Lodge distributing steel water bottles to local schoolchildren.

#### Tigergarh Wildlife Resort, Bandhavgarh Refusing, Reducing, Recycling, Recovering and Reusing in Action



Wall of used beer bottles in the dining hall.

A wall of used beer bottles in the dining hall, symbolises Tigergarh Wildlife Resort's commitment to cutting down and recycling waste. The resort uses green dustbins for wet organic waste and blue for dry. Backstage, dry waste is segregated further; plastic, glass, rubber, metals and electronic waste are sent to Umaria's scrap dealer on a monthly basis.

Biodegradable kitchen waste is composted mixed with an equal amount of leaf and garden waste and some cow-dung for good measure to enhance nutrient quality. Helped along with a weekly turn of a shovel, the compost is ready in 12-14 weeks for

fertilising the garden. Non compostable kitchen waste is given to locals with piggeries for efficient disposal.

The resort has stopped using materials such as cling film and aluminium foil to reduce waste further. Reverse osmosis treated drinking water and refillable containers for organic, biodegradable, herbal toiletries are used in guest rooms to cut down on plastic packaging.

Furniture has made good use of recycled wood. Old tyres have found a use as planters for flowers. The owner's NGO, CAT Foundation (Conservation, Art and Training) has created new self-employment opportunities for local women through workshops teaching local Bulk buying and refillable containers to women how to make bags from old clothes and rugs from reused saris.



cut down on waste.

The foundation is also sharing its knowledge on composting and animal husbandry to improve soil fertility and reduce pesticide use with local farmers.



Making bags and rugs from recycled clothes and saris.



Planter made from reused tyre

Furniture from recycled wood.

#### Svasara Jungle Lodge, Tadoba Segregating Waste and Saying Goodbye to Plastic



Svasara Jungle Lodge encourages its guests to segregate waste into three streams – food, recyclable and non-recyclable - through briefing and colour coded bins.



... complemented by colour coded bins.

Kitchen waste is segregated into food (wet) and dry waste streams.

Guest briefing on recycling in guest rooms ...



Reusable thermoses for water

To cut down on plastic waste, thermoses with safe drinking water purified by reserve osmosis are provided in all guest rooms and on safari. Water in plastic bottles is sold at a Kitchen waste segregation. premium to discourage use.

plastic Replacing 30ml toiletry bottles with refillable table-top and wall-

mounted dispensers for toiletries is a second initiative which has cut down plastic waste dramatically.

The lodge also actively seeks out eco-friendly alternatives elsewhere and uses:

- Bamboo cocktail stirrers
- Steel cutlery instead of plastic for picnics •
- Bamboo baskets for laundry
- Paper drinking straws instead of plastic. •





Refillable ceramic bottles for toiletries.

### The Fern Gir Forest Resort, Gir Segregating Waste and Creative Plastic Bottle Reuse



Guest room dustbins.

An active programme of staff training and guest briefing is part of The Fern Gir Forest Resort's proactive approach to managing waste and recycling.

Separate dustbins are provided in guest rooms, sitting, dining and parking areas to segregate wet and dry waste. Non-biodegradable waste is further segregated (plastics, paper, glass and tins etc) and collected by a local kabadiwala (scrap merchant).

Kitchen waste is segregated and measured on a daily basis. Food quantities are adjusted according to the number of guests. Appropriate food waste is given to villagers as cattle feed and composted.



Kitchen waste segregation.



Composting.

The resort has made a Christmas tree and several planters using plastic bottles. Recycled paper is turned into handicrafts. Lodge staff help to keep the surrounding area clean.



Pen holder from recycled paper.



Cleaning up the local area.

# Sustaining the wild

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